

# PATENT SPECIFICATION

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## (54) FOLDING TRIPOD STRUCTURE

(71) We, VISTA DISPLAY SIGNS LIMITED, a British Company of Vista House, West Street, Hucknall, Nottinghamshire, do hereby declare the invention for which we pray that a Patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:—

5 The present invention relates to folding 10 tripod structures, particularly though not exclusively, for use as a free standing road sign.

15 A conventional folding tripod structure comprises three legs hinged together at one end. Hitherto the hinge arrangement has been somewhat complicated to manufacture, since a hinge member, e.g. a metal pressing must be especially made so that each leg is hinged separately to the hinge member. The present invention aims to 20 obviate this disadvantage.

25 The present invention provides a folding tripod structure comprising three legs hinged together at one end by means of a block of elastomeric material, the block having bores into each of which said one end of a respective leg is received, and at least two of said legs carrying one or more 30 panels of flexible material capable of bearing or bearing a sign, the or each panel extending between said legs. Preferably, said ends are secured in the block by fastening means, such as screws, extending, in use, horizontally.

35 The panels of flexible material may bear a road sign; the sign may display information or may merely have e.g. reflective surfaces for warning purposes.

40 Preferably, brace members are attachable to the legs to brace the legs apart. Such brace members are conveniently secured to attachment points located at a predetermined distance from the elastomeric block.

45 In one embodiment, two such brace members are hinged together at one end about a first axis and a third such brace

member is hinged at said one end about a second axis extending transversely to the first axis.

The two brace members are pivotably secured to two of the legs at their other ends while the third brace member has a free end adapted to be secured to the third leg when the legs are spaced apart in a desired disposition.

If desired, a heavy weight or anchor may be then attached to the brace members. This is particularly efficacious when the tripod structure is used as a road sign in windy conditions.

An embodiment of the invention will now be described by way of example only with reference to the accompanying drawing which is a perspective view of a folding tripod structure having a road sign secured thereto.

Referring to the drawing, a folding tripod structure 1 has a panel of flexible material, such as canvas, secured thereto. The structure 1 comprises three legs 2 of tubular steel hinged together at one end by means of a block 3 of elastomeric material. The block 3 has bores 4 into each of which said one end of a respective leg 2 is received. The end of the legs 2 are secured in the block 3 by means of screws 5 which extend horizontally in use. In the position shown in the drawing, the block 3 is in a relaxed state. The legs 2 are drilled to receive the screws 5, preferably at right angles to and intersecting the axis of each leg. Two of the legs are also drilled to receive bolts 11, which extend through the fabric of the road sign 10. The third leg is drilled to receive a screw 20 with a wing nut 12. These further drillings form attachment points for brace members 13, 14, 15. These attachment points are each located at a predetermined distance from the rubber block 3. Brace members 13, 14 are hinged together at one end about a substantially horizontal axis Y—Y by a pivot pin 16. Brace member 15 is hinged at an

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5	extension 17 of the pin 16 about an axis Z—Z transverse to axis Y—Y. Brace members 13, 14 are pivotally secured to two of the legs by the bolts 11 while the member 15 has a slot 18 in its free end adapted to engage the screw 20. Hinge member 14 is formed with a stop member 19 which is adapted to engage the hinge member 13 as will now be described.	braced tripod, weights can be placed in the bag and the bag suspended from the brace members by a hook.	55
10	In the position shown in the drawing, the legs 2 are spaced apart but unbraced. To brace the tripod, the member 15 is gripped and urged downwards to pull the pivot pin 16 of the hinged brace members 13, 14 through an "over-centre" position until the stop 19 engages member 13 to inhibit further movement of the hinge members relative to the tripod. In this position, it is impossible to urge the legs together without first upwardly moving the member 15. It is now possible to brace the third leg by causing the member 15 to engage the screw 20 by means of the slot 18 and tightening the wing nut 12. If the structure is to be on uneven ground, the member 15 may be rotated about both axes Y—Y and Z—Z to locate the slot 18 with the screw 20.	The panel of flexible material may bear a road sign which may, if desired, be of a reflective nature.	60
15		WHAT WE CLAIM IS:—	60
20		1. A folding tripod structure comprising three legs hinged together at one end by means of a block of elastomeric material, the block having bores into each of which said one end of a respective leg is received, and at least two of said legs carrying one or more panels of flexible material capable of bearing or bearing a sign, the or each panel extending between said legs.	65
25		2. A folding tripod structure as claimed in Claim 1, wherein said ends are secured in the block by fastening means extending, in use, horizontally.	70
30	To unbrace the tripod, the member 15 is merely released from the wing nut 12 and screw 20. The member 15 is then urged upwards to urge the pivot pin 16 through the overcentre position to unbrace the hinge members 13, 14. The tripod structure 1 may now be folded by pulling the legs together and securing them in a suitable manner. The block 3 is then under compression along its lower surface and under tension along its upper surface. The positioning of the screws 5 ensure that the forces in the block are distributed as evenly as possible and that damage to the blocks 3 through excess strain is inhibited.	3. A folding tripod structure as claimed in Claim 1 or Claim 2, in which the flexible material bears a road sign.	75
35		4. A folding tripod structure as claimed in any preceding Claim, comprising brace members attachable to the legs to brace the legs apart.	80
40		5. A folding tripod structure as claimed in Claim 4, wherein the brace members are secured to attachment points located at a predetermined distance from the elastomeric block.	85
45		6. A folding tripod structure as claimed in Claim 4 or Claim 5, wherein two such brace members are hinged together at one end about a first axis, and a third such brace member is hinged at said one end about a second axis extending transversely to the first axis, wherein the two brace members are pivotably secured to two of the legs at their other ends while the third brace member has a free end adapted to be secured to the third leg when the legs are spaced apart in a desired disposition.	90
50	It will be appreciated that various modifications may be made to the above described embodiment. For instance, a collar pivoted to the third brace member 15 and slideable on one leg 2 may replace the slot 18 in the member 15 and the screw 20 and wing nut 12. The bolts 11 may be permanently secured to their respective legs or may have removable nuts and washers.	7. A folding tripod structure as claimed in Claim 6 comprising a heavy weight or anchor for attachment to the brace members.	95
	Conveniently the tripod structure can be carried in an elongate bag, e.g. of plastics and formed with an eyelet. To anchor the	8. A folding tripod structure substantially as herein described with reference to and as illustrated in the accompanying drawings.	100

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COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of  
the Original on a reduced scale*

